FILE 'USPAT' ENTERED AT 13:35:57 ON 04 JUN 1998

WELCOME TO THE U.S. PATENT TEXT FILE

=> s dry or dried

295981 DRY
298445 DRIED
L1 432819 DRY OR DRIED

=> s granul?

L2 117920 GRANUL?

=> s biomass

L3 3766 BIOMASS

=> s l1(20a) l2 (20a) l3

L4 13 L1(20A) L2 (20A) L3

=> d l4 kwic

US PAT NO: 5,759,562 [IMAGE AVAILABLE] L4: 1 of 13

DETDESC:

DETD(8)

Fungal . . . was provided by mixing the clay mixture and fungal biomass with the nutrient in the ratio of 50:33:17 clay mixture:nutrient:fungal **biomass** by weight before preparing the paste for extrusion. The ◊granules/ß were air-◊dried/ß for approximately 16 hours in a fume hood.

=> d kwic 2-13

US PAT NO: 5,431,933 [IMAGE AVAILABLE] L4: 2 of 13

SUMMARY:

BSUM(25)

When very pure fermentations are carried out (with only small residues of organic substances), the broth may even be ◊dried/ß to an easily handled ◊granulate/ß without the ◊biomass/ß and substantially without auxiliary substances such as additional (mineral) carriers. Moreover, fermentation broths which, from the start, are treated in. . .

US PAT NO: 5,418,164 [IMAGE AVAILABLE] L4: 3 of 13

SUMMARY:

BSUM(62)

The cell ◊granulates/ß are ◊dried/ß by dehydration of the microorganisms. The customary methods for drying the ◊biomass/ß by means of heat transfer by convection, such as, for example, current and fluidized bed drying, or by means of. . .

US PAT NO: 5,254,253 [IMAGE AVAILABLE] L4: 4 of 13

DETDESC:

DETD(23)

The . . . a period of time with the specified wastewater feed for a particular installation, until acclimated. Over time, some of the ◊biomass/ß is saved as cultures in a ◊granular/ß or ◊dried/ß material, or in an auxiliary reactor. Saved ◊biomass/ß can be added to augment the existing ◊biomass/ß as the occasion demands during periods of shock loading or after a prolonged period of inactivity due to lack of. . .

US PAT NO: 5,068,105 [IMAGE AVAILABLE] L4: 5 of 13

DETDESC:

DETD(53)

A ◊granular/ß preparation of 50.0 gm commercial fine vermiculite (grade 2) was ◊dried/ß at 80.degree.-90.degree. C. for 48 hours, and then mixed with 10.0 gm dry weight equivalent of fungal ◊biomass/ß from the "dried preparation" described above. An equal amount of dried vermiculite was mixed with 10.0 gm dry weight equivalent. . .

US PAT NO: 4,992,179 [IMAGE AVAILABLE] L4: 6 of 13

DETDESC:

DETD(45)

A glass column is employed which contains the ◊biomass/ß ◊granules/ß at a specified depth. The ◊dry/ß weight of the ◊granules/ß is recorded. A solution at a specified metal concentration is pumped in the upflow direction through the column. Using this. . .

DETDESC:

DETD(72)

Increasing the glyoxal content from 0.5% to 5% by weight resulted in the formation of harder ◊granules/ß. In adding the glyoxal to ◊dried/ß caustic-treated B. subtilis-like ◊biomass/ß, 125 grams were suspended in 500 ml of glyoxal solution, the amount of glyoxal being sufficient to provide the desired. . .

DETDESC:

DETD(73)

The solution with the ◊biomass/ß was decanted and the treated ◊granules/ß were ◊dried/ß at 80.degree. to 100.degree. C. The residue is either reground, or sieved, or simply crushed to obtain the desired particle. . .

CLAIMS:

CLMS(5)

5. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◊biomass/ß reaction product is washed, ◊dried/ß to a hard grindable body and ground to ◊granular/ß form and immobilized in an insoluble binder,
contacting said solution with an amount of said granular ◊biomass/ß reaction product sufficient to sorb said cation into said biomass product,
and thereafter separating the resulting metal-containing biomass from said solution.

CLAIMS:

CLMS(13)

13. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◊biomass/ß product is washed, ◊dried/ß to a hard grindable body and ground to ◊granular/ß form and immobilized in an insoluble binder, to provide a variety of particle sizes which are disposed in an upflow. . .

CLAIMS:

CLMS(15)

15. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◊biomass/ß reaction product is washed, ◊dried/ß, and immobilized in an insoluble binder,
contacting said solution with an amount of said ◊biomass/ß reaction product in ◊granular/ß form sufficient to sorb said cation into said ◊biomass/ß product,
and thereafter separating the resulting metal-containing ◊biomass/ß from said solution.

CLAIMS:

CLMS(19)

19. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◊biomass/ß reaction product is washed, ◊dried/ß, and immobilized in an insoluble binder,
contacting said solution with an amount of said ◊biomass/ß reaction product in ◊granular/ß form sufficient to sorb said cation into said ◊biomass/ß product,
and thereafter separating the resulting metal-containing ◊biomass/ß from said solution.

CLAIMS:

CLMS(26)

26. . . .
reaction product consisting essentially of material derived from the

cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇, and immobilized in an insoluble binder to provide a hard grindable body and ground to ◇granular◇ form to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

CLAIMS:

CLMS(27)

27. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇ and immobilized in an insoluble binder,
contacting said solution with an amount of said ◇biomass◇ reaction product in ◇granular◇ form sufficient to sorb said cation into said ◇biomass◇ product,
and thereafter separating the resulting metal-containing ◇biomass◇ from said solution.

CLAIMS:

CLMS(31)

31. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇ and immobilized in an insoluble binder to provide a hard grindable body and ground to ◇granular◇ form to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

CLAIMS:

CLMS(33)

33. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇ and immobilized in an insoluble binder,
contacting said solution with an amount of said ◇biomass◇ reaction product in ◇granular◇ form sufficient to sorb said cation into said ◇biomass◇ product,
and thereafter separating the resulting metal-containing ◇biomass◇ from said solution.

US PAT NO: 4,898,827 [IMAGE AVAILABLE] L4: 7 of 13

DETDESC:

DETD(42)

A glass column is employed which contains the ◇biomass◇ ◇granules◇ at a specified depth. The ◇dry◇ weight of the ◇granules◇ is recorded. A solution at a specified metal concentration is pumped in the upflow direction through the column. Using this. . .

DETDESC:

DETD(69)

Increasing the glyoxal content from 0.5% to 5% by weight resulted in the formation of harder ◇granules◇. In adding the glyoxal to ◇dried◇ caustic-treated B. subtilis-like ◇biomass◇, 125 grams were suspended in 500 ml of glyoxal solution, the amount of glyoxal being sufficient to provide the desired. . .

DETDESC:

DETD(70)

The solution with the ◇biomass◇ was decanted and the treated ◇granules◇ were ◇dried◇ at 80.degree. to 100.degree. C. The residue is either reground, or sieved, or simply crushed to obtain the desired particle. . .

US PAT NO: 4,824,829 [IMAGE AVAILABLE] L4: 8 of 13

SUMMARY:

BSUM(11)

The . . . in a fine stream or spray onto the carrier while blending. The mixture is blended until homogeneous, resulting in a ◇dry◇ ◇granular◇ non-dusting premix. Alternatively, the premix compositions of the invention may be prepared from crude ◇biomass◇ material by extraction of the biomass into said physiologically acceptable alcohol and utilizing the alcohol extract directly in the preparation. . .

US PAT NO: 4,789,481 [IMAGE AVAILABLE] L4: 9 of 13

DETDESC:

DETD(23)

A glass column is employed which contains the ◇biomass◇ ◇granules◇ at a specified depth. The ◇dry◇ weight of the ◇granules◇ is recorded. A solution at a specified metal concentration is pumped in the upflow direction through the column. Using this. . .

CLAIMS:

CLMS(5)

5. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇ to a hard grindable body and ground to ◇granular◇ form,
contacting said solution with an amount of said ◇granular◇ ◇biomass◇ reaction product sufficient to sorb said cation into said ◇biomass◇ product,
and thereafter separating the resulting metal-containing ◇biomass◇ from said solution.

CLAIMS:

CLMS(11)

11. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ product is washed, ◇dried◇ to a hard grindable body and ground to ◇granular◇ form, to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

CLAIMS:

CLMS(20)

20. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇ to a hard grindable body and ground to ◇granular◇ form to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

CLAIMS:

CLMS(24)

24. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ◇biomass◇ reaction product is washed, ◇dried◇ to a hard grindable body and ground to ◇granular◇ form to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

US PAT NO: 4,752,301 [IMAGE AVAILABLE] L4: 10 of 13

CLAIMS:

CLMS(4)

4. A method according to claim 3 in which the ◇biomass◇ is ◇dried◇ by a sprayer to form a powder or in a fluidised bed to form ◇granules◇.

US PAT NO: 4,690,894 [IMAGE AVAILABLE] L4: 11 of 13

DETDESC:

DETD(23)

A glass column is employed which contains the ◇biomass◇ ◇granules◇ at a specified depth. The ◇dry◇ weight of the ◇granules◇ is recorded. A solution at a specified metal concentration is pumped in the upflow direction through the column. Using this. . .

US PAT NO: 4,539,036 [IMAGE AVAILABLE] L4: 12 of 13

SUMMARY:

BSUM(15)

The . . . preparation is either known or can be effected analogously to known processes. An example of a commercially available fungal mycelium ◇biomass◇ is the ◇dried◇ ◇granular◇ ◇biomass◇ of the mycelial fungus Penicillium chrysogenum (Trade Mark Biosol.RTM.) having the following composition:

CLAIMS:

CLMS(17)

17. A method of claim 1 in which the fungal ◇biomass◇ is the ◇dried◇ ◇granular◇ ◇biomass◇ of the mycelial fungus Penicillium chrysogenum.

US PAT NO: 4,447,534 [IMAGE AVAILABLE] L4: 13 of 13

CLAIMS:

CLMS(3)

3. A method in accordance with claim 1, wherein unfermented ◇biomass◇, together with remaining unfermented nutrients, are removed from the fluidized bed in the form of wet ◇granules◇, and the ◇granules◇ are subsequently ◇dried◇.

=> d 1-

1. 5,759,562, Jun. 2, 1998, Compositions for control of soil pests; David John Rhodes, et al., 424/409, 93.5, 405, 408, 410, 418, 421, 489 [IMAGE AVAILABLE]

2. 5,431,933, Jul. 11, 1995, Animal feed supplement based on a fermentation broth amino acid, a process for its production and its use; Wolfram Binder, et al., 426/60, 2, 656; 435/106 [IMAGE AVAILABLE]

3. 5,418,164, May 23, 1995, Self-supporting carrier-free cell granulates for combating pests and treating plants; Wolfram Andersch, et al., 435/254.1; 424/93.5; 435/261, 911 [IMAGE AVAILABLE]

4. 5,254,253, Oct. 19, 1993, Modular shipboard membrane bioreactor system for combined wastewater streams; Henry Behmann, 210/607, 151, 195.2, 195.3, 205, 220, 625, 626, 629 [IMAGE AVAILABLE]

5. 5,068,105, Nov. 26, 1991, Fungal formulation for biocontrol of soilborne plant pathogens; Jack A. Lewis, et al., 424/93.3; 47/57.6, DIG.9; 424/93.5; 435/254.1, 256.3, 256.7, 932, 933, 945 [IMAGE AVAILABLE]

6. 4,992,179, Feb. 12, 1991, Metal recovery; James A. Brierley, et al., 210/661; 75/722; 210/679, 688 [IMAGE AVAILABLE]

7. 4,898,827, Feb. 6, 1990, Metal recovery; James A. Brierley, et al., 435/244; 210/601; 435/252.5, 254.1, 255.2, 256.1, 256.6, 259, 264, 832, 839, 911, 913, 939, 940 [IMAGE AVAILABLE]

8. 4,824,829, Apr. 25, 1989, Non-dusting antibiotic, anticoccidial premix compositions and a process for their manufacture; Irving Klothen, 514/27, 460 [IMAGE AVAILABLE]

9. 4,789,481, Dec. 6, 1988, Metal recovery; James A. Brierley, et al., 210/661, 688; 423/DIG.17 [IMAGE AVAILABLE]

10. 4,752,301, Jun. 21, 1988, Method to due cotton and other substrates with a micro-organism biomass containing indigo; Werner Koch, 8/653, 646, 918; 435/118, 121 [IMAGE AVAILABLE]

11. 4,690,894, Sep. 1, 1987, Treatment of microorganisms with alkaline solution to enhance metal uptake properties; James A. Brierley, et al., 435/244; 210/601; 435/252.5, 254.1, 255.2, 256.1, 256.6, 259, 264, 822, 839, 911, 913, 939, 940 [IMAGE AVAILABLE]

12. 4,539,036, Sep. 3, 1985, Method of facilitating vegetation; Stefan Naschberger, 71/11, 5, 27, 903; 405/264 [IMAGE AVAILABLE]

13. 4,447,534, May 8, 1984, Method of producing ethanol through fermentation of carbohydrates; Otto Moebus, et al., 435/161, 813, 940 [IMAGE AVAILABLE]

=>

=> s diameter

L5 713838 DIAMETER

=> s l5 and l13

'L13' NOT FOUND

=> s l5 and l4

L6 6 L5 AND L4

=> d l6 kwic 1-

US PAT NO: 5,759,562 [IMAGE AVAILABLE] L6: 1 of 6

DETDESC:

DETD(4)

A . . . weight until the paste reached a consistency suitable for extrusion. The paste was extruded under pressure through a 0.5 mm ◇diameter◇ Endecott sieve.

DETDESC:

DETD(8)

Fungal . . . was provided by mixing the clay mixture and fungal biomass with the nutrient in the ratio of 50:33:17 clay mixture:nutrient:fungal **biomass** by weight before preparing the paste for extrusion. The ◇granules◇ were air-◇dried◇ for approximately 16 hours in a fume hood.

US PAT NO: 5,418,164 [IMAGE AVAILABLE] L6: 2 of 6

SUMMARY:

BSUM(54)

In the process according to the invention, the granulate ◇diameter◇ or granulate stability is controlled by choosing the speed of shaking or rotation of the culture flasks, the number of. . . of 50 rpm to 250 rpm, particularly preferably in a range of 100 to 200 rpm, depending on the granulate ◇diameter◇ or granulate stability. In the case of culture of the microorganisms in fermentation tanks, the stirring speed is preferably kept. . . particular shaking or stirring speed which is most advantageous and leads to the formation of cell granulates with the desired ◇diameter◇ or stability by simple series experiments.

SUMMARY:

BSUM(62)

The cell ◇granulates◇ are ◇dried◇ by dehydration of the microorganisms. The customary methods for drying the ◇biomass◇ by means of heat transfer by convection, such as, for example, current and fluidized bed drying, or by means of. . .

DETDESC:

DETD(15)

The . . . fermentation described above are separated off from the fermentation broth by sieving over a fabric of plastic with a pore ◇diameter◇ of 0.1 mm. An additional content of non-bonded fermentation liquid is separated off by filtration of the cell granulates by. . .

DETDESC:

DETD(40)
. . .
granulate of Metarhizium anisopliae
granulate:
according to Example A with a particle size
of 0.5 to 1.0 mm (◇diameter◇)

DETDESC:

DETD(45)
. . .
stage
Test cell Cell granulate of Metarhizium anisopliae
granulate: P 0001 with a particle size of 1.0 mm
(◇diameter◇)

DETDESC:

DETD(49)
. . .
Cell granulate of Metarhizium anisopliae
granulate: according to Example A with a particle size
of 0.5 to 1.0 mm (◇diameter◇)

DETDESC:

DETD(73)

After . . . the formation of the permanent stages, so-called conidia, starts, these having a length of 9.0 to 12.0 .mu.m and a ◇diameter◇ of 2.0 to 3.0 .mu.m. The conidia are arranged in uniform chains, several strands of chain as a rule lying. . .

DETDESC:

DETD(74)

When . . . also develop yeast-like individual cell stages, so-called

blastospores. The length of the blastospores is 22.0 to 25 .mu.m and their ⌀diameter⌀ is 6.0 to 8.0 .mu.m.

CLAIMS:

CLMS(1)

What . . .

class Deuteromycetes, said fungi being capable of mycelium formation, and said granulates having an essentially bead shaped structure and a ⌀diameter⌀ of about 0.1 to about 1.5 mm.

US PAT NO: 5,254,253 [IMAGE AVAILABLE] L6: 3 of 6

SUMMARY:

BSUM(33)

The . . . end and cylindrical wall of the element have large pores in the range from 1 mm to 5 mm in ⌀diameter⌀. Compressed air is blown through the open end of the aerator and the energy of the air provides the motive. . .

SUMMARY:

BSUM(44)

It . . . concentrate from the membrane filtration device, to shear incoming gas so as to entrain bubbles of the gas having a ⌀diameter⌀, under pressure, in the range from l .mu.m to about 1000 .mu.m (microns), in a stream of microaerated concentrate. The. . .

SUMMARY:

BSUM(50)

(e) . . . the range from about 150 Kpa to about 1000 kPa so as to incorporate micronized gas bubbles having an average ⌀diameter⌀ in the range from l .mu.m to about 1000 .mu.m into said concentrate, forming a microaerated concentrate having separate gas. . .

SUMMARY:

BSUM(65)

It . . . provides all the energy for microaerating the reaction mass with micron-sized bubbles generated through pores less than 20 .mu.m in ⌀diameter⌀, preferably from 0.1 .mu.m to about 1 .mu.m in ⌀diameter⌀, of oxygen-containing gas, at the same time, maintaining necessary recirculation within a liquid bioreaction mass preferably no wider than it. . .

DETDESC:

DETD(15)

The . . . about 20 mm, more typically from 50 .mu.m to 10 mm, most of which are greater than 2 mm in ⌀diameter⌀. The micronizer provides a copious supply of oxygen during periods of high oxygen uptake. It is preferred to use both,. . .

DETDESC:

DETD(23)

The . . . a period of time with the specified wastewater feed for a particular installation, until acclimated. Over time, some of the ⌀biomass⌀ is saved as cultures in a ⌀granular⌀ or ⌀dried⌀ material, or in an auxiliary reactor. Saved ⌀biomass⌀ can be added to augment the existing ⌀biomass⌀ as the occasion demands during periods of shock loading or after a prolonged period of inactivity due to lack of. . .

DETDESC:

DETD(28)

As . . . micrometers), preferably less than 10 .mu.m, through which gas under pressure emerges in a multiplicity of streams each comparable in ⌀diameter⌀ to the ⌀diameter⌀ of a pore in the metal cylinder.

DETDESC:

DETD(35)

Preferred . . . Z8 modules with HSC or TAM membranes. Each such module contains eight (8) 1.83 m long tubes, each having a ⌀diameter⌀ of 2.22 cm, connected in series to provide a membrane area of 0.975 m.sup.2 /module. The modules themselves are connected. . .

DETDESC:

DETD(38)

Concentrate . . . pressure is diffused through micropores into the shearing liquid which generates mainly micron-sized bubbles 49 less than 10 .mu.m in ⌀diameter⌀, in the concentrate, forming a microaerated concentrate stream.

DETDESC:

DETD(39)

The . . . to that of the shearing liquid to effect excellent mixing within the diffuser element. In large diffuser elements having a ⌀diameter⌀ in excess of about 10 cm, it may be desirable to provide mixing vanes to enhance mixing efficiency and ensure. . .

DETDESC:

DETD(45)

An . . . bioreactor, about 1 meter in diam., in which the height of the liquid surface was about 50 cm (height=0.5 times ⌀diameter⌀).

CLAIMS:

CLMS(1)

I . . .
the range from about 150 kPa to about 1000 kPa so as to incorporate micronized gas bubbles having an average ⌀diameter⌀ in the range from about 1 .mu.m to about 1000 .mu.m into said concentrate, forming a microaerated concentrate having separate. . . bioreaction zone;
(h) flowing an auxiliary stream of air in the form of coarse bubbles greater than about 2 mm in ⌀diameter⌀, with enough energy to maintain a desirable recirculation pattern in said reaction zone; and, at the same time, directing said. . .

CLAIMS:

CLMS(6)

6. . . . 0.9 Kg O.sub.2 /kWh; bubbles in said microaerated concentrate are in the range from 1 .mu.m to 1000 .mu.m in ⌀diameter⌀; and, said membrane filtration zone contains a membrane having a pore size in the range from about 0.001 .mu.m-0.5 .mu.m. . .

CLAIMS:

CLMS(7)

7. . . . longitudinally axially into said micronizing zone and said gas is introduced radially therein, passing through pores from 1-100 .mu.m in ⌀diameter⌀ in said diffuser element and into said concentrate.

CLAIMS:

CLMS(8)

8. . . . travels longitudinally axially therein, said gas is introduced longitudinally axially therein, passing radially outwardly through pores from 1-100 .mu.m in ⌀diameter⌀ in said diffuser element and into said concentrate.

CLAIMS:

CLMS(9)

9. . . .
with said filtration means;
(e) auxiliary aeration means providing motive force with relatively coarse bubbles greater than about 2 mm in ⌀diameter⌀ introduced below the surface of said bioreactor to establish a recirculation pattern;
said gas micronizing means comprising, (i) a tubular microporous. . .

CLAIMS:

CLMS(13)

13. . . . as to microaerate said concentrate infusing it with a multiplicity of gas bubbles in the range from 1-1000 .mu.m in ⌀diameter⌀, and adding the energy of said gas to the kinetic energy of said solids-containing stream so as to provide a. . .
stream; and,
(b) flowing an auxiliary stream of air in the form of coarse bubbles greater than about 2 mm in ⌀diameter⌀ with enough energy to maintain a desirable recirculation pattern in said reaction zone; whereby activated sludge solids are separated only. . .

CLAIMS:

CLMS(19)

19. . . . longitudinally axially into said micronizing zone and said gas is introduced radially therein, passing through pores from 1-100

.mu.m in ✪diameter✪ in said diffuser element and into said concentrate.

CLAIMS:

CLMS(20)

20. . . . travels longitudinally axially therein, said gas is introduced longitudinally axially therein, passing radially outwardly through pores from 1-100 .mu.m in ✪diameter✪ in said diffuser element and into said concentrate.

US PAT NO: 5,068,105 [IMAGE AVAILABLE] L6: 4 of 6

DETDESC:

DETD(27)

The . . . the form of randomly shaped particles. The particles in grade 2 vermiculite typically are less than about 800.0 microns in ✪diameter✪, but size will depend on the grade of vermiculite used. The dry preparation has a density of about 0.2 gm/cc.sup.3. . .

DETDESC:

DETD(53)

A ✪granular✪ preparation of 50.0 gm commercial fine vermiculite (grade 2) was ✪dried✪ at 80.degree.-90.degree. C. for 48 hours, and then mixed with 10.0 gm dry weight equivalent of fungal ✪biomass✪ from the "dried preparation" described above. An equal amount of dried vermiculite was mixed with 10.0 gm dry weight equivalent. . .

US PAT NO: 4,992,179 [IMAGE AVAILABLE] L6: 5 of 6

DETDESC:

DETD(45)

A glass column is employed which contains the ✪biomass✪ ✪granules✪ at a specified depth. The ✪dry✪ weight of the ✪granules✪ is recorded. A solution at a specified metal concentration is pumped in the upflow direction through the column. Using this. . .

DETDESC:

DETD(58)

With . . . conducted using a cylindrical column having confined therein a granule bed of the caustic-treated biomass measuring about 1.7 centimeters in ✪diameter✪ and 10 centimeters high, the biomass having a granule size of about -35 mesh +60 mesh. The cadmium solution contained. . .

DETDESC:

DETD(72)

Increasing the glyoxal content from 0.5% to 5% by weight resulted in the formation of harder ✪granules✪. In adding the glyoxal to ✪dried✪ caustic-treated B. subtilis-like ✪biomass✪, 125 grams were suspended in 500 ml of glyoxal solution, the amount of glyoxal being sufficient to provide the desired. . .

DETDESC:

DETD(73)

The solution with the ✪biomass✪ was decanted and the treated ✪granules✪ were ✪dried✪ at 80.degree. to 100.degree. C. The residue is either reground, or sieved, or simply crushed to obtain the desired particle. . .

CLAIMS:

CLMS(5)

5. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪ to a hard grindable body and ground to ✪granular✪ form and immobilized in an insoluble binder,
contacting said solution with an amount of said granular ✪biomass✪ reaction product sufficient to sorb said cation into said biomass product,
and thereafter separating the resulting metal-containing biomass from said solution.

CLAIMS:

CLMS(13)

13. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ product is washed, ✪dried✪ to a hard grindable body and ground to ✪granular✪ form and immobilized in an insoluble binder, to provide a variety of particle sizes which are disposed in an upflow. . .

CLAIMS:

CLMS(15)

15. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪, and immobilized in an insoluble binder,
contacting said solution with an amount of said ✪biomass✪ reaction product in ✪granular✪ form sufficient to sorb said cation into said ✪biomass✪ product,
and thereafter separating the resulting metal-containing ✪biomass✪ from said solution.

CLAIMS:

CLMS(19)

19. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪, and immobilized in an insoluble binder,
contacting said solution with an amount of said ✪biomass✪ reaction product in ✪granular✪ form sufficient to sorb said cation into said ✪biomass✪ product,
and thereafter separating the resulting metal-containing ✪biomass✪ from said solution.

CLAIMS:

CLMS(26)

26. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪, and immobilized in an insoluble binder to provide a hard grindable body and ground to ✪granular✪ form to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

CLAIMS:

CLMS(27)

27. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪ and immobilized in an insoluble binder,
contacting said solution with an amount of said ✪biomass✪ reaction product in ✪granular✪ form sufficient to sorb said cation into said ✪biomass✪ product,
and thereafter separating the resulting metal-containing ✪biomass✪ from said solution.

CLAIMS:

CLMS(31)

31. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪ and immobilized in an insoluble binder to provide a hard grindable body and ground to ✪granular✪ form to provide a variety of particle sizes which are disposed in an upflow column,
and passing said solution through said. . .

CLAIMS:

CLMS(33)

33. . . .
reaction product consisting essentially of material derived from the cell walls thereof having enhanced metal uptake properties following which said ✪biomass✪ reaction product is washed, ✪dried✪ and immobilized in an insoluble binder,
contacting said solution with an amount of said ✪biomass✪ reaction product in ✪granular✪ form sufficient to sorb said cation into said ✪biomass✪ product,
and thereafter separating the resulting metal-containing ✪biomass✪ from said solution.

US PAT NO: 4,898,827 [IMAGE AVAILABLE] L6: 6 of 6

DETDESC:

DETD(42)

A glass column is employed which contains the ◇biomass◇ ◇granules◇ at a specified depth. The ◇dry◇ weight of the ◇granules◇ is recorded. A solution at a specified metal concentration is pumped in the upflow direction through the column. Using this. . .

DETDESC:

DETD(55)

With . . . conducted using a cylindrical column having confined therein a granule bed of the caustic-treated biomass measuring about 1.7 centimeters in ◇diameter◇ and 10 centimeters high, the biomass having a granule size of about -35 mesh +60 mesh. The cadmium solution contained. . .

DETDESC:

DETD(69)

Increasing the glyoxal content from 0.5% to 5% by weight resulted in the formation of harder ◇granules◇. In adding the glyoxal to ◇dried◇ caustic-treated B. subtilis-like ◇biomass◇, 125 grams were suspended in 500 ml of glyoxal solution, the amount of glyoxal being sufficient to provide the desired. . .

DETDESC:

DETD(70)

The solution with the ◇biomass◇ was decanted and the treated ◇granules◇ were ◇dried◇ at 80.degree. to 100.degree. C. The residue is either reground, or sieved, or simply crushed to obtain the desired particle. . .

=> file jpoabs

FILE 'JPOABS' ENTERED AT 13:57:02 ON 04 JUN 1998

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 *  JAPANESE PATENT ABSTRACTS   *
 *                              *
 * CURRENTLY, DATA IS LOADED THROUGH DECEMBER 1996, FOR THE
*
 * JAPANESE PATENT OFFICE ABSTRACTS (JPOABS) AND THROUGH     *
 * JANUARY 27, 1998, FOR THE GLOBAL PATENT INFORMATION       *
 * JAPANESE PATENT OFFICE (GPI-JPO) FILE.  THANKS.           *
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IRD CNOABS

=> s ;4

ENTER LOGIC EXPRESSION, QUERY NAME, OR (END):end

SEARCH ENDED BY USER

'4' IS NOT A RECOGNIZED COMMAND

=> s l4

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      38330 DRY
      55239 DRIED
      26448 GRANUL?
        134 BIOMASS
L7        1 L1(20A) L2 (20A) L3
```

=> d l7 all

59-102989 Jun. 14, 1984 L7: 1 of 1
MANUFACTURE OF FUEL PELLET

INVENTOR: MICHIAKI YAMAMOTO
ASSIGNEE: NIPPON SEIKOSHO KK
APPL NO: 57-211345
DATE FILED: Dec. 3, 1982
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C245
ABS VOL NO: Vol. 8, No. 218
ABS PUB DATE: Oct. 4, 1984
INT-CL: C10L 5/44

ABSTRACT:

PURPOSE:To stabilize the quality, reduce the power consumption and shorten the time required for reaching the stationary state, by pulverizing a ◇biomass◇ raw material, drying the pulverized ◇biomass◇ raw material, and compression molding the resultant ◇dried◇ ◇biomass◇ raw material under a specific pressure in a specific ◇granulator◇ to form pellets.

CONSTITUTION:A **biomass** raw material, e.g. wood waste, is pulverized and ◇dried◇ or mixed with a synthetic resin, and the resultant ◇dried◇ powder or mixture is compression molded in a ◇granulator◇ 8. In the process, the ◇granulator◇ is kept in a gastight state by means of rotary valves 4, 22, etc. provided in the raw material feeding part on the upstream side of the granulator 8 and a pellet discharging part 20, and steam or high-temperature air is then blown into a part 6, e.g. a mixer, between the rotary valves 4, 22 etc. and the granulator 8 to granulate the biomass raw material powder or mixture in a state of 0.5.approx.10kg/cm.sup.2 (gauge pressure) saturated steam pressure therebetween in the form of pellets.

=> file epoabs

FILE 'EPOABS' ENTERED AT 13:57:43 ON 04 JUN 1998

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 *  EUROPEAN PATENT ABSTRACTS   *
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=> s l4

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      21935 DRY
      12252 DRIED
      14035 GRANUL?
       1010 BIOMASS
L8       0 L1(20A) L2 (20A) L3
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=> file jpoabs

FILE 'JPOABS' ENTERED AT 13:58:09 ON 04 JUN 1998

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 ********************************
 *  JAPANESE PATENT ABSTRACTS   *
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 * CURRENTLY, DATA IS LOADED THROUGH DECEMBER 1996, FOR THE
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 * JAPANESE PATENT OFFICE ABSTRACTS (JPOABS) AND THROUGH     *
 * JANUARY 27, 1998, FOR THE GLOBAL PATENT INFORMATION       *
 * JAPANESE PATENT OFFICE (GPI-JPO) FILE.  THANKS.           *
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IRD CNOABS

=> d his

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   (FILE 'USPAT' ENTERED AT 13:35:57 ON 04 JUN 1998)
L1     432819 S DRY OR DRIED
L2     117920 S GRANUL?
L3       3766 S BIOMASS
L4         13 S L1(20A) L2 (20A) L3
L5     713838 S DIAMETER
L6          6 S L5 AND L4

   FILE 'JPOABS' ENTERED AT 13:57:02 ON 04 JUN 1998
L7          1 S L4

   FILE 'EPOABS' ENTERED AT 13:57:43 ON 04 JUN 1998
L8          0 S L4

   FILE 'JPOABS' ENTERED AT 13:58:09 ON 04 JUN 1998
```

=> s l1 and l2

```
      38330 DRY
      55239 DRIED
      26448 GRANUL?
L9     3563 L1 AND L2
```

=> s fungus or fungi or fungal

```
       1402 FUNGUS
       1783 FUNGI
        245 FUNGAL
L10    3154 FUNGUS OR FUNGI OR FUNGAL
```

=> s l9 and l10

L11 9 L9 AND L10

=> d l11 all 1-

08-302368 Nov. 19, 1996 L11: 1 of 9
METHOD FOR CONVERTING GENERAL GARBAGE INTO SOLID FUEL

INVENTOR: YOJI OGAKI, et al. (5)
ASSIGNEE: NKK CORP, et al. (1)
APPL NO: 07-129618
DATE FILED: Apr. 28, 1995
PATENT ABSTRACTS OF JAPAN
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL: C10L 5/46; B09B 3/00

ABSTRACT:

PURPOSE: To decrease the load on a crusher, prevent the rotting, bad odor, and proliferation of microorganisms and ⋄fungi⋄ during storage of a solid fuel produced, and eliminate hydrogen chloride gas during combustion in a process for converting general household garbage into a solid fuel.

CONSTITUTION: A raw material 1, i.e., general household garbage, is stored in a pit and crane 2 at the storing step, subjected to the primary crushing 3 to a ⋄granule⋄ size of e.g. 75-100mm, subjected to magnetic sorting 4 and aluminum sorting 12 to remove iron and aluminum, subjected to sieving 5 with a 20-30mm-mesh sieve to be separated into oversize garbage and undersize residue. The oversize garbage is subjected to the secondary crushing 6 to a ⋄granule⋄ size of 20-30mm, and the undersize residue is mixed 7 with 5-10wt.% (based on the ⋄dry⋄ residue) lime 8. Then, the oversize garbage after the secondary crushing and the undersize residue contg. lime are subjected to drying and mixing 9, subjected to vol. reduction and solidification 10, and molded into a solid fuel 11.

07-89807 Apr. 4, 1995 L11: 2 of 9
METHOD FOR PRODUCING ANTIMICROBIAL SHEET AND METHOD FOR PRODUCING
ANTIMICROBIAL SINTERED COMPACT

INVENTOR: TATSUYA SAEKI
ASSIGNEE: SEKISUI PLASTICS CO LTD
APPL NO: 05-238444
DATE FILED: Sep. 24, 1993
PATENT ABSTRACTS OF JAPAN
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL: A01N 25/34; A01N 25/08; A01N 59/16

ABSTRACT:

PURPOSE: To produce an antimicrobial sheet showing good flexibility and capable of exhibiting excellent antimicrobial characteristics by combining amorphous calcium phosphate particles with the ions of an antimicrobial metal, ⋄granulating⋄ the mixture, and subsequently shaping the ⋄granules⋄ into the sheet, and furthermore to produce an antimicrobial sintered compact high in reliability by using the sheet.

CONSTITUTION: A calcium hydroxide suspension is mixed with a water-soluble high-molecular dispersant andsubsequently adjusted to a pH or 10-5 by the dropwise addition of an aqueous phosphoric acid solution to produce a slurry containing amorphous calcium phosphate particles. The slurry is mixed with the ions of an antimicrobial metal and subsequently ⋄granulated⋄ into the antimicrobial ⋄granules⋄. The ⋄granules⋄ are kneaded with a solvent and a binder and then molded into a sheet-like article. The sheet-like article is ⋄dried⋄ to provide the antimicrobial sheet from which the solvent has been removed. The sheet is sintered in an oxidative atmosphere to afford the antimicrobial sintered compact comprising the sintered antimicrobial ⋄granules⋄. The sheet is sintered at 800-1100°C in an oxidative atmosphere to obtain the antimicrobial sintered compact in which the antimicrobial ⋄granules⋄ have been sintered in a porous state. The antimicrobial sheet and the antimicrobial sintered compact can be used for retaining the freshness of fresh foods, etc., or for preventing bacteria and ⋄fungi⋄ on the back surfaces of the ceiling plates of houses or on the back surfaces of chests of drawers, etc.

06-55092 Mar. 1, 1994 L11: 3 of 9
PRODUCTION OF POWDER AND ⋄GRANULAR⋄ MATERIAL

INVENTOR: HAJIME SHIMIZU
ASSIGNEE: HAJIME SHIMIZU, et al. (80)
APPL NO: 04-207973
DATE FILED: Aug. 4, 1992
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C1207
ABS VOL NO: Vol. 18, No. 288
ABS PUB DATE: Jun. 2, 1994
INT-CL: B02C 19/06

ABSTRACT:

PURPOSE:To enable the long-term preservation of produced powdery and ⋄granular⋄ materials without degrading the quality of the powdery and ⋄granular⋄ materials and without generating ⋄fungi⋄ and oxidation of the powdery and ⋄granular⋄ materials by charging raw materials into a housing from the upper part thereof and pulverizing the raw materials to prescribed grain sizes while forcibly feeding dehumidified ⋄dry⋄ air into the housing from the upper side thereof.

CONSTITUTION:The raw materials (e.g. rocks, agricultural products are charged into the housing 2 having an inverted circular cone shape and while the dehumidified ⋄dry⋄ air is forcibly fed into the housing via a supply pipe 5 by a blower, the raw materials are pulverized to the grain sizes down to about 100.mu.m within the housing 2. The inside wall of the housing 2 is formed to a polygon shape of 32 angles and the raw materials fluidized in the housing 2 are processed to a powder and ⋄granular⋄ state by the repulsion effect thereof by compressed air. Consequently, the intrusion of the worn dust of crushing blades into the processed powdery and ⋄granular⋄ materials and the adverse influence of the friction heat generated during crushing on the powder and ⋄granular⋄ materials are obviated.

04-29902 Jan. 31, 1992 L11: 4 of 9
ANTIFUNGAL AGENT AND ⋄FUNGAL⋄ CONTROL USING THE SAME

INVENTOR: NORIO WADA, et al. (1)
ASSIGNEE: SHINTO PAINT CO LTD, et al. (40)
APPL NO: 02-137692
DATE FILED: May 28, 1990
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C0938
ABS VOL NO: Vol. 16, No. 194
ABS PUB DATE: May 11, 1992
INT-CL: A01N 25/12; A01N 25/00; A01N 25/02; A01N 25/10; C08K 7/00; C09D 5/14; D01F 1/10; D06M 23/00

ABSTRACT:

PURPOSE:To perform **fungal** controlling treatment assuredly effective over a long period of time by incorporating a synthetic fiber or plastic with an antifungal agent smaller in ⋄granular⋄ size than conventional agents, or by applying or adding a solvent-dispersed antifungal agent to a material to be treated.

CONSTITUTION:An antifungal agent .open bracket.e.g. 2-4-thiazolyl)-benzimidazole.close bracket. is ground to .ltoreq.3.mu.m in size through ⋄dry⋄ grinding process using e.g. an airflow pulverizer or wet grinding process, e.g. using a medium, and the resulting ⋄granules⋄ (or powder) is directly incorporated in a synthetic fiber or plastic; alternatively, the ⋄granules⋄ (powder) is dispersed in a solvent (e.g. ethylene glycol, liquid paraffin) and added or applied to an object, thus performing the objective antifungal treatment. Pulverization of the antifungal agent will prevent the drop-off of its effectiveness in adding to plastics etc., and enable its addition to fine synthetic fibers, thereby the present antifungal method can preferably be applied to water-related utensils for e.g. bathrooms or antifungal clothing covers, etc.

01-101880 Apr. 19, 1989 L11: 5 of 9
ROCKWOOL CULTIVATION OF 'MATSUTAKE' MUSHROOM

INVENTOR: SEIICHI MURATA
ASSIGNEE: SEIICHI MURATA
APPL NO: 62-259170
DATE FILED: Oct. 14, 1987
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C619
ABS VOL NO: Vol. 13, No. 315
ABS PUB DATE: Jul. 18, 1989
INT-CL: C12N 1/14; A01G 1/04; ///(C12 N1/14; C12R 1:645)

ABSTRACT:

PURPOSE:To enable the production of MATSUTAKE mushroom mycelia, by effecting shaking culture of a diluted culture solution containing spores of MATSUTAKE using rockwool as a medium, and continuing the culture of the mycelia formed using concentrated culture solution.

CONSTITUTION:Spores of MATSUTAKE **fungus** are subjected to shaking culture in a mixture of dilute culture solution containing saccharides, minerals, hormones and so on, and ⋄granular⋄ rockwool at 23.approx.24.degree.C. Then, the resultant liquid mycelia are inoculated to rockwool impregnated with concentrated culture solution, and the cultivation is continued in moisture content of 25.approx.30% at 21.approx.22.degree.C to form mycelia layers. Artificial cultivation of MATSUTAKE mushroom mycelia has been succeeded for the first time, by the inventors, using a rockwool utilizing its properties. The most effective culture solution has a composition of 1,000cc of water, 5.approx.10g of honey, 20g of glucose, 5g of ⋄dried⋄ yeast, 1g of ammonium tartarate,

1g of potassium phosphate, 0.2g of potassium chloride, 1mg of zinc sulfate, 0.5mg of nicotine, 0.5mg of folic acid, 0.1mg of thiamine hydrochloride, and 0.01mg of indoleacetic acid, and a pH of 4.

61-267527 Nov. 27, 1986 L11: 6 of 9
HYPERTENSION-SUPPRESSING AGENT COMPOSED OR FOMES JAPONICUS

INVENTOR: AKIMI KADOTA
ASSIGNEE: OSAKA CHEM LAB
APPL NO: 60-108550
DATE FILED: May 20, 1985
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C417
ABS VOL NO: Vol. 11, No. 132
ABS PUB DATE: Apr. 24, 1987
INT-CL: A61K 35/84

ABSTRACT:

PURPOSE:To provide an agent for suppressing hypertension by using Fomes japonicus as essential component.

CONSTITUTION:Fomes japonicus (a **fungus** belonging to Polyporaceae family; Gododerma lucidum) is ✡dried✡, crushed in the form of mince, frozen at .ltoreq.-10.degree.C, and crushed with a ball mill in frozen state. The crushed product is returned to normal temperature and sieved to collect the fraction between 10 mesh and 200 mesh. The fraction coarser than 10 mesh is frozen again, and crushed with a ball mill. The fraction having the above size is sterilized at low temperature to obtain an agent for hypertension. As an alternative method, Fomes japonicus is extracted with water or acetone. The powder or extract is formed in the form of powder, ✡granule✡ or tablet, optionally together with additives such as diluent, sweetener, excipient, etc.

60-251841 Dec. 12, 1985 L11: 7 of 9
LIPOMETABOLIC FOOD

INVENTOR: TOSHIO HORIUCHI, et al. (1)
ASSIGNEE: KK HORIUCHI, et al. (1)
APPL NO: 59-109166
DATE FILED: May 29, 1984
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C345
ABS VOL NO: Vol. 10, No. 128
ABS PUB DATE: May 13, 1986
INT-CL: A23F 3/06

ABSTRACT:

PURPOSE:To obtain a lipometabolic food, by treating semi-fermented or fermented tea leaves with hot water, drying and pulverizing the product, and using the powder as an essential component.

CONSTITUTION:Semi-fermented tea leaves (commercially available oolong tea) or fermented tea leaves (commercially available black tea) are immersed in hot water of about 100.degrees C. for about 10sec to effect the hot-water treatment. The ✡fungi✡, etc. attached to the tea leaves are killed by the treatment. The treated tea leaves are ✡dried✡ spontaneously or at a low temperature, and pulverized to 40.approx.100mesh. The powder is formed in the form of powder, ✡granule✡, etc. The lipometabolic function can be improved remarkably by taking 1.approx.3g of the food daily.

60-23391 Feb. 5, 1985 L11: 8 of 9
EXTRACT OF FLAMMULINA VELUTIPES

INVENTOR: SADAO NAKAGAKI
ASSIGNEE: YAMAJIRUSHI JIYOUZOU KK
APPL NO: 58-127854
DATE FILED: Jul. 15, 1983
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C286
ABS VOL NO: Vol. 9, No. 138
ABS PUB DATE: Jun. 13, 1985
INT-CL: C07G 17/00; A61K 35/84

ABSTRACT:

PURPOSE:To obtain the titled extract for oral administration, containing a carcinostatic and immunity promoting component, keeping the taste, flavor, minor active components, etc. of the original ✡fungus✡, by concentrating aqueous extract of Flammulina velutipes (an edible ✡fungus✡), removing the precipitate, and drying and forming the concentrate in the form of powder of ✡granule✡.

CONSTITUTION:For example, a mixture for a culture medium composed of the fruit body or mycelia of Flammulina velutipes and chaff, sawdust, rice bran, etc. is added with about 3 times weight of water, and heated. The obtained extract liquid is concentrated with e.g. a vacuum hot kneader, etc., and centrifuged to remove the precipitate and foreign materials. The supernatant liquid is added with dextrin, ✡dried✡ by vacuum freeze-drying, etc., and formed to powder or ✡granule✡ e.g. with a pulverizer.

59-183669 Oct. 18, 1984 L11: 9 of 9
SHIITAKE TABLETS AND THEIR PRODUCTION

INVENTOR: HARUMUTSU INOMATA
ASSIGNEE: MITSUYO INOMATA
APPL NO: 58-57914
DATE FILED: Apr. 4, 1983
PATENT ABSTRACTS OF JAPAN
ABS GRP NO: C287
ABS VOL NO: Vol. 9, No. 41
ABS PUB DATE: Feb. 21, 1985
INT-CL: A23L 1/212; //A61K 9/20; A61K 35/78

ABSTRACT:

PURPOSE:The titled tablets which are prepared by compression-molding a powder and extract of SHIITAKE mushroom, keeping their water content at a certain level, thus enabling the effective utilization of low-grade or less valuable SHIITAKEs and giving a health food that can be readily taken, because it is in the form of tablets.

CONSTITUTION:A SHIITAKE powder is combined with an extract of SHIITAKE resultant from extraction with water or a mixture thereof with extracts of shelf ✡fungus✡ (SARUNOKOSHIKAKE) and/or Formes japonicus ✡fungus✡ (REISHI or MANNENTAKE), when necessary, a molding aid is added to the mixture in an amount of 2.approx.8g per kg. of the SHIITAKE powder to form ✡granules✡ by the wet process. Then, the ✡granules✡ are crushed and ✡dried✡ to 10.approx.18wt% water content, then subjected to compression molding to give the objective tablets.

=> file epoabs

FILE 'EPOABS' ENTERED AT 14:01:40 ON 04 JUN 1998

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 *  EUROPEAN PATENT ABSTRACTS   *
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=> s l11

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     21935 DRY
     12252 DRIED
     14035 GRANUL?
       619 FUNGUS
      1981 FUNGI
      1145 FUNGAL
L12      7 L9 AND L10
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=> d all l12

US 05074902A Dec. 24, 1991 L12: 1 of 7
✡Granular✡ products containing ✡fungi✡ encapsulated in a wheat gluten matrix for biological control of weeds

INVENTOR: JR WILLIAM J CONNICK, et al. (1)
ASSIGNEE: CONNICK JR WILLIAM J, et al. (1)
APPL NO: US 56079190A
DATE FILED: Jul. 30, 1990
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL: A01N 25/12; A01N 63/04

ABSTRACT:

Weed pathogenic ✡fungi✡ to be encapsulated in a wheat gluten matrix are blended with flour and water to make a cohesive dough. The dough is extruded, rolled out into a sheet, or otherwise shaped, and ✡dried✡ to form products that contain the ✡fungi✡ entrapped throughout the gluten matrix. The encapsulated ✡fungi✡ grow onto the surface of said products when provided with sufficient light and water. The products of this invention may be used to infect and kill weeds.

=> d 2-7 all

US 04734393A Mar. 29, 1988 L12: 2 of 7
Non-clay oil and grease absorbent

INVENTOR: H EDWARD LOWE, et al. (2)
ASSIGNEE: LOWE H EDWARD
APPL NO: US 74674885A
DATE FILED: Jun. 20, 1985

PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL:

ABSTRACT:

An oil and grease absorbent material formed from treated paper sludge or other fibrous slurries and a method of treating the slurry to form the material which includes the physical properties of clay absorbents. The method involves the addition of materials to the shredded slurry to control color, bacteria, ✡fungi✡, and density. A quantity of lipophyllic ray cells are added to the slurry to increase oil absorbency. The slurry is then formed into ✡granules✡ and ✡dried✡ before packaging.

US 04721059A Jan. 26, 1988 L12: 3 of 7
Nonclay catbox filler

INVENTOR: H EDWARD LOWE, et al. (1)
ASSIGNEE: LOWE H EDWARD
APPL NO: US 90196386A
DATE FILED: Aug. 27, 1986
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL:

ABSTRACT:

A clay-like filler material formed from treated paper sludge or other fibrous slurries and a method of treating the sludge to form the filler which includes the physical properties of clay fillers. The method involves adding materials to the shredded slurry to control color, bacteria, ✡fungi✡, absorbency, pests, and fragrance. The slurry is then formed into ✡granules✡ and ✡dried✡ prior to being packaged.

US 04067821A Jan. 10, 1978 L12: 4 of 7
Method of treating a biomass

INVENTOR: VACLAV VOTAPEK, et al. (3)
ASSIGNEE: CESKOSLOVENSKA KOMISE ATOM
APPL NO: US 66890276A
DATE FILED: Mar. 22, 1976
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL: C02B 1/32

ABSTRACT:

<CHG DATE=19940730 STATUS=O>A technique is described for stiffening a biomass comprising mycelia ✡fungi✡ used for retention of heavy metal ions. The procedure involves dispersing a ✡dry✡ or native mycelium strain in a non-polar dispersion medium, agglomerating the resultant dispersion by adding a stiffening component and a surface active agent, and catalyzing the agglomerated mixture to yield stiffened ✡granules✡.

WO 09525163A1 Sep. 21, 1995 L12: 5 of 7
METHODS FOR THE PRODUCTION OF ✡FUNGAL✡ SPORES AND COMPOSITIONS THEREOF

INVENTOR: ROBERT DUNCAN CARMICHAEL, et al. (1)
ASSIGNEE: PHILOM BIOS INC
APPL NO: CA 09500094W
DATE FILED: Feb. 24, 1995
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL: C12N 3/00; C12N 1/14

ABSTRACT:

Methods are disclosed for a multi-stage two-phase ✡fungal✡ fermentation process for the production of large quantities of ✡fungal✡ spores which can be used as active ingredients in commercial compositions. The first phase of the fermentation process preferentially stimulates the growth of ✡fungal✡ mycelium, and the volume of mycelial biomass produced during this phase can be considerably increased by successive serial transfers of the mycelial biomass to larger vessels. The second phase, i.e., final phase, of the fermentation process preferentially stimulates ✡fungal✡ sporulation and spore production. The ✡fungal✡ spores produced with this invention can be processed into concentrated slurries or ✡dried✡ powders. Commercial compositions that can be prepared with these ✡fungal✡ spore products as active ingredients, include ✡dry✡ and wettable powders, liquids and ✡granules✡.

GB 02188651A Oct. 7, 1987 L12: 6 of 7
Non-clay material ✡granules✡

INVENTOR: HENRY EDWARD LOWE, et al. (2)
ASSIGNEE: LOWE HENRY E
APPL NO: GB 08705107A
DATE FILED: Mar. 5, 1987
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL: D04H 1/00

ABSTRACT:

<CHG DATE=19940730 STATUS=O>   A clay-like material
is formed from treated paper sludge or other plant fiber slurries. A method of treating the sludge to form a filler which includes the physical properties of clay fillers involves adding materials to the shredded slurry to control colour, bacteria, ✡fungi✡, absorbency, pests, and fragrance. The slurry is then formed into ✡granules✡ and ✡dried✡ prior to being packaged. The use of the filler for incorporating agricultural chemicals or as a cat litter is described.

DE 04204793C1 Apr. 15, 1993 L12: 7 of 7
Binding inorganic material for forming heat or sound insulation abrasives etc. - using binder of phenol oxidase and lignin

INVENTOR:
ASSIGNEE:
APPL NO: DE 04204793A
DATE FILED: Feb. 18, 1992
PATENT ABSTRACTS OF EUROPE
ABS GRP NO:
ABS VOL NO:
ABS PUB DATE:
INT-CL:

ABSTRACT:

Process for binding inorganic materials, esp. finely divided fibres, spherules, powders, sands and ✡granules✡, comprises mixing these materials with phenoloxidases and lignin. The bonding agent comprises an aq. soln. of phenoloxidase(s) obtd. from bacteria, plant or ✡fungi✡ that degrade lignin, and lingin; such that the ✡dry✡ solids content is 1-50 wt.% (pref. 3-20 wt.%). The inorganic materials are immersed in or sprayed with the aq. binder soln., then ✡dried✡ and pressed at 100-250C (pref. 150-220C). USE - The process is applicable to mineral fibres, ceramics, silica or glass wool, SiC, metal fibres etc., e.g. for the prodn. of thermal or sound insulating panels, abrasives, et

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